

**MAHATMA GANDHI UNIVERSITY
COLLEGE OF ENGINEERING
Muttom, Thodupuzha, Idukki Dist. – 685 587
Ph. 04862-256222
www.ucet.ac.in
email: principal@ucet.ac.in**

No:UCET/T-1/G-607/2014

Dated, 12-03-2015

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

TENDER NUMBER:131120315

TENDER NOTICE

Sealed Competitive tenders are invited for the supply and installation of the items as per list attached, subject to the following conditions. Last date for receipt of tender is 30-03-2015, 2:00 PM. The tenders will be opened at 2:30 PM on the same day. Cover containing tenders should be super scribed as **“Tender -Annual purchase 2014 - Part.....(please specify the part no as per the list of items).** Tender for products in each part should be submitted in separate covers. Details are available in the website www.ucet.ac.in and www.mgu.ac.in

Earnest Money Deposit (EMD), calculated @1% of the Purchase Assessment Cost (PAC) should be paid by the firm. The EMD should be furnished in the form of D.D in favour the Principal University College of Engineering Thodupuzha Payable at SBT Muttom, Thudanganad ADB, Branch along with the sealed tenders.

The Tender Form and other details can be had from the above two websites and the cost of the Form @0.2% of the PAC rounded to the nearest multiple of Rs.100/- , subject to a minimum of Rs.400/- and maximum of Rs.1500/- +VAT as applicable.

For ensuring the guarantee, terms and conditions etc relating to the articles supplied , a written Agreement must be submitted by the firm. Qualified bidder should submit 5% of the PAC as Security Deposit.

Cost of tender form by DD :As per the details given as above

Tender Form can be downloaded from website : www.ucet.ac.in and www.mgu.ac.in

Last date &time of receipt of tender :02 p.m. on 30-03-2015

Date and time of opening the tender :2.30 p.m. on 30-03-2015

EMD : 1 %of the tendered value by DD

Sealed Envelope containing tenders shall be addressed to THE PRINCIPAL,UNIVERSITY COLLEGE OF ENGINEERING MUTTOM THODUPUZHA –PIN 685587

Conditions:

1. The quoted price should be all inclusive.
2. The price quoted should be for the delivery of the items at the college stores/dept.
3. The tender should have at least six months validity period.
4. The items should be supplied within **one week**, if a supply order is placed.
5. A catalogue of the items quoted should be enclosed
6. **Warranty conditions should be clearly furnished. In the case of Computers and UPS 3 year onsite warranty is mandatory. Tenders for Desktop Computers and Laptops should be accompanied by Requirement Specification Sheet in the format given.**
7. **AMC charges for the product after the warranty period must be specified if available. For computers and UPS AMC charges should be mentioned.**
8. **The Principal reserves the right to vary the quantity of articles notified on account of budgetary constraints. The vendor must be prepared to supply even if order is placed for a lesser number than that notified in this quotation notice.**
9. The right to accept or reject the quotations rests entirely with the Principal.
10. If the product has a valid DGS & D rate contract, it may be quoted.
11. If the date for receipt and opening of the quotations is declared a holiday, the next working day shall be the last date for the purpose.
12. Mode of payment may be specified.
13. The facility for after sales service may be specified.
14. The exact rate of tax (SICST, additional ST, surcharge, excise duty, etc.) should be specified.
15. Customs/Excise Duty Exempted price should also be quoted
16. Specify whether the item will be covered by insurance for loss / damage and the approximate cost if it is to be charged to our account.
17. Terms regarding packing and forwarding charges may be stated.
18. Specification of item quoted shall be as much descriptive as possible and descriptive leaflets may be provided. Wherever available, preference will be given for items for which brand name or manufacturers' details are furnished. For special items involving large amount, addresses of others for whom the item has been supplied may be furnished.
19. **The tenders shall be submitted in the specified format given in the website.**

Sd/-
PRINCIPAL

University College of Engineering Thodupuzha
Annual purchase items 2014 Inviting Tender

No:UCET/T1/G-607/2014

TENDER NUMBER:131120315

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

Date:12/03/2015

Part- 1 : Computers and Accessories

Part-2 : Furnitures

Part-4 :Lab equipments(Electronics &Communication Engineering)

Sl.No	Item No	Items	Specification	Quantity
Part- 1 Computers and Accessories				
1	EE59,CS83,IT79	Desktop Computers CORE i5	Refer Part-1 Specification	40
2	PE89	Desktop Computers CORE i3	Refer Part-1 Specification	1
3	CS81	Laptop Computers s CORE i5	Refer Part-1 Specification	1
4	IT77,PE90	Laptop Computers CORE i3	Refer Part-1 Specification	2
5	CS86	Server	Refer Part-1 Specification	1
6	IT78,EE23,CS84	Projector	Refer Part-1 Specification	3
7	IT76,CS80 ,EC11	Printer (Multifunction)	Refer Part-1 Specification	3
8	PE91	Laser Printer	Refer Part-1 Specification	1
9	EE60	Uninterruptible Power Supply(UPS)	Refer Part-1 Specification	1
10	Office 96	Network Printer(Under Buy Back scheme)	Refer Part-1 Specification	1
Part-2A : Wooden Furnitures				
1	EE20	Working Table	Refer Part-2 Specification	15
2	EE21	Stool	Refer Part-2 Specification	36
3	EC15	Lab Work Table	Refer Part-2 Specification	10
4	EC16	Stool	Refer Part-2 Specification	30
6	PE93	Desk with plain top(Labortary Use)	Refer Part-2 Specification	10
7	PE94	Bench	Refer Part-2 Specification	10
8	PE95	Wooden table (for placeing Chemical Balanc	Refer Part-2 Specification	3
Part-2B : Steel Furnitures				
1	EC05	Computer Chair	Refer Part-2 Specification	38
2	EC13	Office Table &chair	Refer Part-2 Specification	4
3	EC14	Almarah	Refer Part-2 Specification	4
4	EE24	Almarah	Refer Part-2 Specification	3
Part-4 :Lab equipments (Electronics & Communication Engineering)				
1	EC01,EE27	Digital Storage Oscilloscope	Refer Part-4 Specification	16
2	EC02	DDS Function Generator	Refer Part-4 Specification	8
3	EC08	LabVIEW for ARM	Refer Part-4 Specification	1
4	EC09	Ansoft & HFFS	Refer Part-4 Specification	1
5	EC17	Data Networking	Refer Part-4 Specification	2

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : EE59,CS83,IT79

DESKTOP COMPUTERS			
	Item	Required Parameter	Offered Parameter
1	Processor	Intel Core i5 4 th generation Processor 2.6 GHz or better	
2	Motherboard	Intel chipset motherboard having :	
		a) Minimum 2 USB 3.0 ports	
		b) Minimum 4 USB 2.0 ports	
		c) Minimum 4 X SATA 3.0 Gb/s ports	
		d) Ethernet port 10/100/1000 mbps	
		e) On board Sound	
		f) On board HD Graphics	
		g) RGB / HDMI port	
		h) Speaker out, Line in & Mic in ports	
		i) 1 X PCI-Express slot	
3	RAM	4 GB DDR3 SDRAM	
4	Hard Disk Drive	500 GB SATA 3.0 Gb/s, 7200rpm, 3.5"	
5	Optical Drive	DVD-RW drive SATA 16X or better	
6	Monitor	17"/18.5" high definition LED colour, Minimum resolution 1366 X 768	
7	Keyboard	USB 104 keys switch type	
8	Mouse	USB Optical scroll (with pad)	
9	Cabinet	ATX cabinet with 2 X 5.25" External and 2 X 3.5" Internal bays, Front panel Power and Reset buttons	
10	SMPS	250W or better Energy star compliant	
11	Certifications	a) Microsoft & Redhat Linux certifications for the Quoted Model for at least 1 year	
		a) ISO 9001:2000 & ISO 14001 for the Manufacturer	
12	Warranty	3 years Comprehensive, On site	

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : CS86

SERVER PC			
	Item	Required Parameter	Offered Parameter
1	Processor	Intel Core i3 4150 (3.5 GHz/2 core/HT) Processor or better	
2	Motherboard	Intel C222 chipset motherboard having :	
		a) Minimum 2 X USB 3.0 ports	
		b) Minimum 4 X USB 2.0 ports	
		c) Minimum 4 X SATA 3.0 Gb/s ports	
		d) On Board 1 GB 333i Ethernet Adapter with 2 ports	
		e) On board Sound	
		f) On board HD Graphics	
		g) RGB / HDMI port	
		h) 1 X 8MB L3 cache	
		i) 4 X DIMM slots	
3	RAM	16 GB DDR3 SDRAM	
4	Hard Disk Drive	2 X 400/500 GB SATA 3.0 Gb/s, 7200rpm, 3.5"	
5	Optical Drive	DVD-RW drive SATA 16X or better	
6	Monitor	17"/18.5" high definition LED colour, Minimum resolution 1366 X 768	
7	Keyboard	USB 104 keys switch type	
8	Mouse	USB Optical scroll (with pad)	
9	Cabinet	ATX cabinet with 2 X 5.25" External and 2 X 3.5" Internal bays, Front panel Power and Reset buttons	
10	SMPS	Energy star compliant	
11	Certifications	b) Microsoft & Redhat Linux certifications for the Quoted Model for at least 1 year	
		b) ISO 9001:2000 & ISO 14001 for the Manufacturer	
12	Warranty	3 years Comprehensive, On site	

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : CS81

Laptop Computer			
	Item	Required Parameter	Offered Parameter
1	Processor	Intel Core i5 4 th generation processor, 2.6 GHz or better	
2	Built-in	a) Minimum 1 X USB 3.0 ports	
		b) Minimum 2 X USB 2.0 ports	
		c) RJ-45, Headphone/Mic. ports	
		d) High speed Blue-tooth, integrated IEEE 802.11 b/g/n WLAN, 10/100/1000 mbps Ethernet LAN.	
		e) HD Audio	
		f) , Integrated HD Graphics	
		g) RGB / HDMI port	
		h)Built-in Web Cam, Speakers, standard touch pad and Memory Card Reader	
3	RAM	4 GB DDR3 RAM	
4	Hard Disk Drive	500 GB SATA HDD	
5	Optical Drive	8x DVD Writer	
6	Monitor	15.6" high definition display LED backlit, resolution 1366X768 aspect ratio 16:9	
7	battery	6 cell Li-ion battery.	
8	Certifications	c) Microsoft & Redhat Linux certifications for the Quoted Model for at least 1 year	
		c) ISO 9001:2000 & ISO 14001 for the Manufacturer	
9	Warranty	3 years Comprehensive, On site	

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : IT77,PE90

Laptop Computer			
	Item	Required Parameter	Offered Parameter
1	Processor	Intel Core i3 4 th generation processor, 2.6 GHz or better	
2	Built-in	a) Minimum 1 X USB 3.0 ports	
		b) Minimum 2 X USB 2.0 ports	
		c) RJ-45, Headphone/Mic. ports	
		d) High speed Blue-tooth, integrated IEEE 802.11 b/g/n WLAN, 10/100/1000 mbps Ethernet LAN.	
		e) HD Audio	
		f) , Integrated HD Graphics	
		g) RGB / HDMI port	
		h)Built-in Web Cam, Speakers, standard touch pad and Memory Card Reader	
3	RAM	4 GB DDR3 RAM	
4	Hard Disk Drive	500 GB SATA HDD	
5	Optical Drive	8x DVD Writer	
6	Monitor	15.6" high definition display LED backlit, resolution 1366X768 aspect ratio 16:9	
7	battery	6 cell Li-ion battery.	
8	Certifications	d) Microsoft & Redhat Linux certifications for the Quoted Model for at least 1 year	
		d) ISO 9001:2000 & ISO 14001 for the Manufacturer	
9	Warranty	3 years Comprehensive, On site	

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : PE89

DESKTOP COMPUTERS			
	Item	Required Parameter	Offered Parameter
1	Processor	Intel Core i3 4 th generation Processor 2.6 GHz or better	
2	Motherboard	Intel chipset motherboard having :	
		a) Minimum 2 USB 3.0 ports	
		b) Minimum 4 USB 2.0 ports	
		c) Minimum 4 X SATA 3.0 Gb/s ports	
		d) Ethernet port 10/100/1000 mbps	
		e) On board Sound	
		f) On board HD Graphics	
		g) RGB / HDMI port	
		h) Speaker out, Line in & Mic in ports	
		i) 1 X PCI-Express slot	
3	RAM	4 GB DDR3 SDRAM	
4	Hard Disk Drive	500 GB SATA 3.0 Gb/s, 7200rpm, 3.5"	
5	Optical Drive	DVD-RW drive SATA 16X or better	
6	Monitor	17"/18.5" high definition LED colour, Minimum resolution 1366 X 768	
7	Keyboard	USB 104 keys switch type	
8	Mouse	USB Optical scroll (with pad)	
9	Cabinet	ATX cabinet with 2 X 5.25" External and 2 X 3.5" Internal bays, Front panel Power and Reset buttons	
10	SMPS	250W or better Energy star compliant	
11	Certifications	e) Microsoft & Redhat Linux certifications for the Quoted Model for at least 1 year	
		e) ISO 9001:2000 & ISO 14001 for the Manufacturer	
12	Warranty	3 years Comprehensive, On site	

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : IT76,CS80 ,EC11

MULTIFUNCTION LASER PRINTER

Copy Type Monochrome Laser, Copy Speed Up to 18 / 19cpm (A4 / LTR)

Copy Resolution Speed priority mode:600 x 400dpi,Resolution priority mode: 600 x600dpi

Halftones 256 levels

Warm up Time (From Power On) 10secs. or less

Recovery Time (From Sleep Mode) 2secs. or less (Copy),0.3sec. or less (Print)

First Copy Time (FCOT) 12.0 / 11.8secs. (A4 / LTR)

Paper Source 150-sheet cassette

Paper Weight 60 to 163g/m2 (cassette)

Paper Output 100 sheets (face down)

Zoom 50 - 200% in 10% increments

Copy Size Platen: Up to A4 / LTR. Copy Features 2 on 1, ID Card Copy, Copy Memory 64MB (Shared)

Print

Printer Type Monochrome Laser

Print Speed Up to 18 / 19ppm (A4 / LTR)

First Printout Time (FPOT) 7.8 / 7.7secs. (A4 / LTR)

Print Language UFR II LT

Print Resolution Up to 600 x 600dpi, 1200 (equivalent) x 600dpi

Print Memory 64MB (Shared)

Scan

Scan Type CIS

Scan Resolution Optical: Up to 600 x 600dpi,Driver enhanced: Up to 9600 x 9600dpi

Colour Depth 24-bit

Document Size Platen: Up to A4

Compatibility TWAIN, WIA

Output File Format Win: Hi-Compression PDF, Searchable PDF, PDF, JPEG, TIFF, BMP.Mac: PDF, JPEG, TIFF, BMP, PNG

Pull Scan Yes, USB, Scan To PC None

Interface / Software

Standard Interface USB 2.0 Hi-Speed, Ethernet port 10/100mbps

USB Function Print, Scan

Compatible Operating Systems*1 Windows 8 (32 / 64-bit), Windows 7(32 / 64-bit), Windows XP (32 / 64-bit), Mac OS X 10.4 - 10.8, ubuntu

Linux*3

LCD Display 7 Segment (1 digit) LED

Toner Cartridge*3 Cartridge 325*2 (1,600 pages)

(Bundled cartridge 700 pages)

Monthly Duty Cycle 8,000 pages

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : IT78,EE23,CS84

PROJECTOR & SCREEN

a. Projector

Display type : DLP

Brightness : 2500 Lumens

Resolution : XGA, 1024 x 768, 4:3

Contrast Ratio : 10000 : 1

Lamp : 200 W, 5000 h durability, 6000 h durability (economy mode)

Keystone Correction: Auto vertical: $\pm 30^\circ$, Manual horizontal $\pm 30^\circ$

Projection Size: 30 inches - 350 inches

Projection Distance Wide/Tele: 1,77 m - 2,4 m (60 inch screen)

Focal Distance: 16,7 mm

Focus: Manual

Features: AV Mute Slide, Built-in speaker, Digital zoom, Direct Power on/off, Document Camera Compatible, Horizontal and vertical keystone correction, Network projection, Wireless LAN capable

Video Color Modes: Blackboard, Dynamic, Presentation, Sports, sRGB, Theatre, Whiteboard

Carrying bag, Computer cable, Main unit, Power cable, Remote control incl. batteries, User's Manual Set, Warranty Documents

Connectivity : Cinch audio in, RGB in, S-Video in, Component in, Composite in, HDMI in, VGA in, Wireless LAN IEEE 802.11b/g/n, USB 2.0 Type B, USB 2.0 Type A

b. Screen

Size 6'X4', High Gain Fabric,

Spring Action Automatic Rollup Technology

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : EE60

UNINTERRUPTIBLE POWER SUPPLY(UPS) 5KVA

U P S With Battery ,Technology: IGBT based, True Sine wave ,Output Power: 5 Kva, Mode of operation: Online ,Input Voltage: single phase (230 V),Output Voltage: Single phase, 230 V,Status Display: input, output, voltage, current, overload, battery low ,mains on ,inverter on etc. Battery: 10 Nos. of 12 V,(Make and Model: EXIDE 6 EL / EL+ 100 Ah , TRUE TUBULAR)Protection: Surge protection, output short circuit protection etc, Interface: RS 232 interface ,Battery Rack: For 10 batteries ,Warranty: 3 years onsite comprehensive warranty for both UPS and ,Battery

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : PE91

LASER PRINTER

Printing Speed	12ppm (A4)	
Resolution	Enhanced:	True 600 x 600dpi resolution
	Smoothing Technology:	(2400 x 600dpi equivalent with Automatic Image Refinement Technology)
Printing Language	CAPT (Canon Advanced Printing Technology)	
Memory	Uses PC memory (standard 2MB on-board)	
Warm-up Time	0sec. from Standby Mode (less than 10secs. after power up)	
First Print Out Time	9.3secs. or less	
Paper Size	Front Tray:	A4, B5, A5, LGL, LTR, Executive, Envelope C5 / COM10 / DL, Monarch
	Manual Tray:	Custom paper (Width: 76.2 - 215.9mm; Length: 127.0 - 355.6mm)
Paper Input	Front Tray:	150 sheets
	Manual Tray:	1 sheet
Paper Output	Face down:	100 sheets
Dimensions (W x D x H)	370 x 251 x 217mm	
Weight	Approx. 5.7kg excluding cartridge	
Operating Systems Supported	Windows 98 / ME / 2000 / XP, Linux (CUPS)	
Power Requirement	220 – 240V (+/-10%), 50 / 60Hz (+/-2Hz)	
Interface	USB 2.0 Hi-Speed	
Included As Standard	Cartridge 303, User Software CD-ROM, Getting Started Guide, Power Cord	

Part- 1 : Computers and Accessories (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER : Office96

NETWORK PRINTER (Under Buy Back Scheme)

Digital Duplex Copier ,A3 size
Copy speed 20CM or above ,
250 x 2 Sheets Paper trays,
100 Sheets Bypass Tray
25% to 400% Reduction Enlargement
Continuous Copy 1-999
Resolution 600 x 600 dpi
Duplex Laser Network Printer
A3 network Scanner
Electronic Sorting
Dual Page Copying

Part-2B Furniture (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER: EC 05

COMPUTER CHAIR,Sturdy steel pipe-framed (16 SWG pipe) chair, with armrest, upholstered seat and back, frame strengthening cross bar in front, back and sides, height of seat from bottom – 18"



(Photograph of the chair attached)

Part-2B Furniture (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EC13(A)

OFFICE TABLE ,

office table with computer key board rack, one drawer and cupboard on the right side ,MDF or novo pan top (4'x2') 20g



ITEM NUMBER :EC13(B)

OFFICE CHAIR

Heavy duty elegant chrome frame & powder coated

Mesh covered seat and back

Chrome/powder coated frame

Seat Width - 46 cm

Seat Depth - 46 cm

Seat Height - 48 cm

Back Height - 28 cm

Back Width - 45 cm



Part-2B Furniture (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EC14

Steel Almarah , steel almarah with five shelf each having separate lock and key (78"x36"x15") 20g



Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EC15

Lab work table

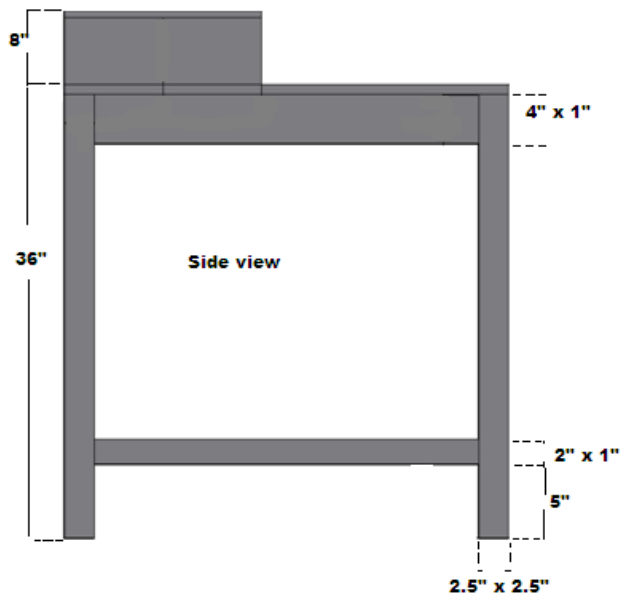
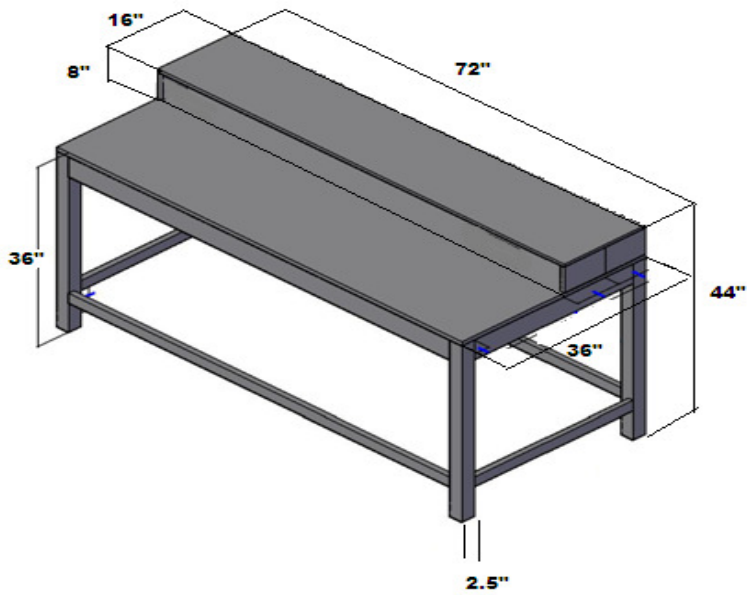
Material: First class Anjili wood

(Dimensions are in inches)

Table Width – 36”

Table top Height – 36”+ 8”

Table Length -72"



Part-2A Furniture (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

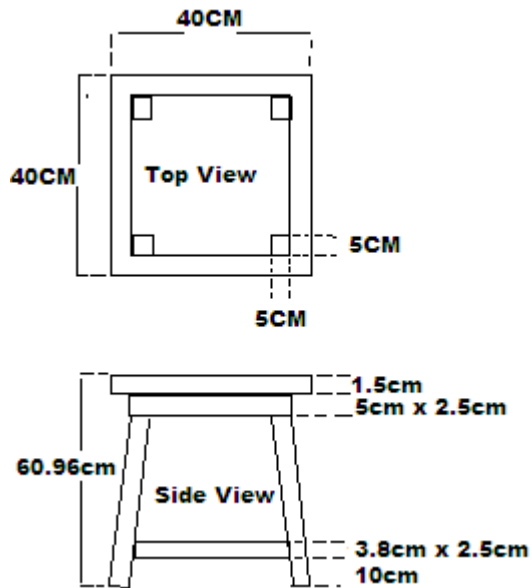
ITEM NUMBER :EC16

Lab Stool

Material: First class Anjili wood

Seat Width – 40cm X 40cm

Height – 60.96 cm



Part-2A Furniture (Inviting Tender)

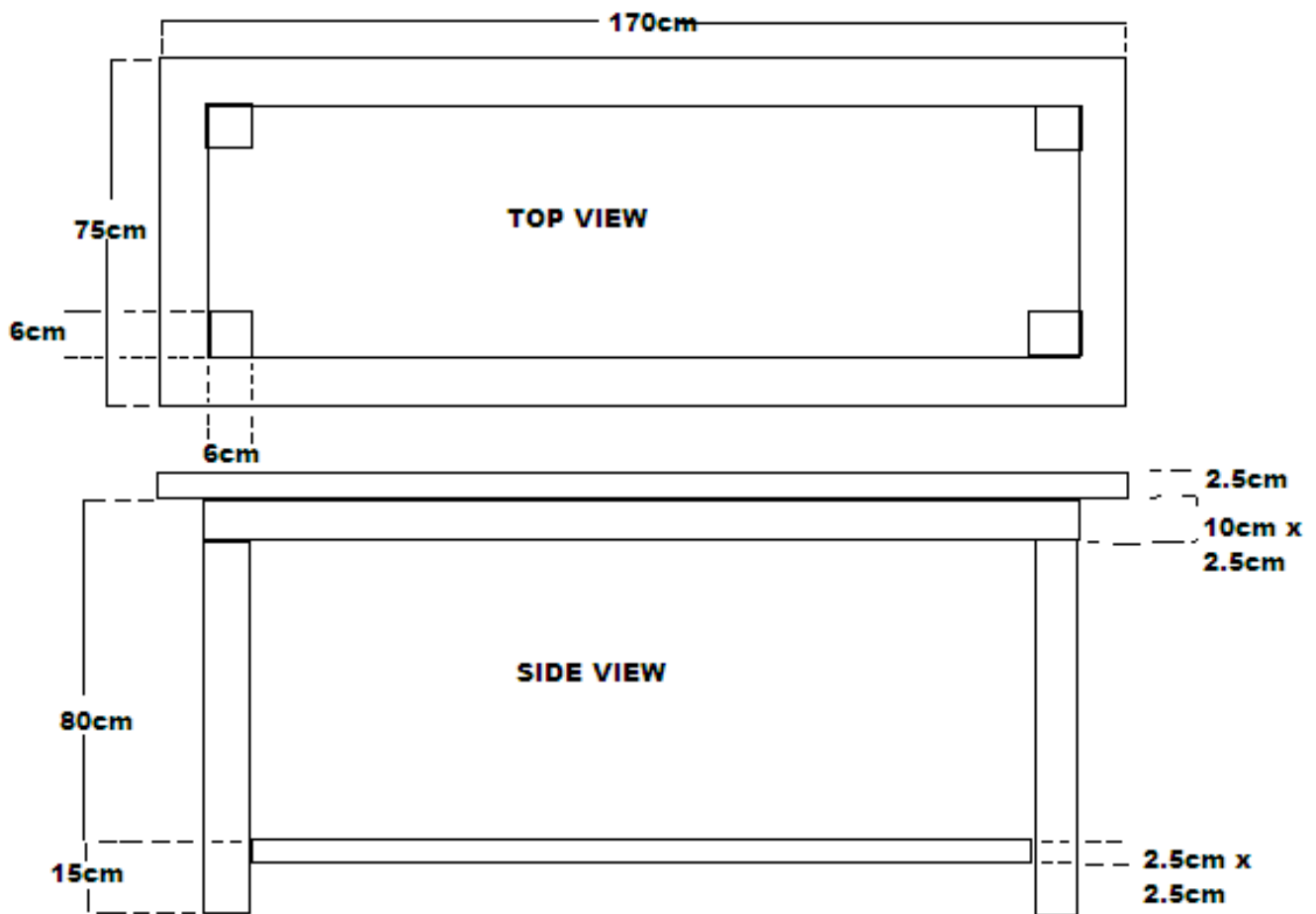
Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EE20

LAB WORK TABLE

Material: First class Anjili wood

Sketches of Working Table



Part-2A Furniture (Inviting Tender)

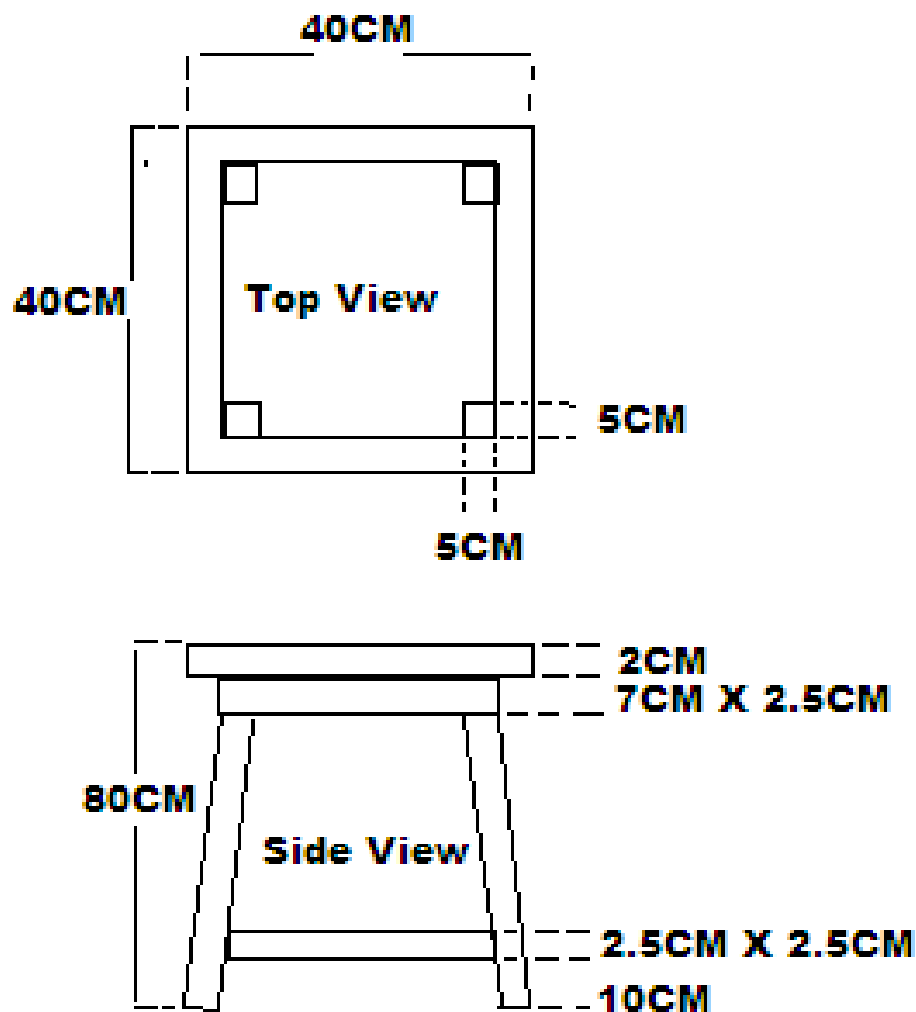
Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EE21

STOOL

Material: First class Anjili wood

Sketches of Stool



Part-2B Furniture (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EE24

Steel Almarah

Steel, 6.5x3.5x18 (dimension in feet)5rack,front glass,20guage sheet



Part-2A Furniture (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :PE-93

Visit our site Before submit the quotation (Time:10AM to 4PM Working days only)

DESK

(To various laboratories)

Length-137.16cm(4.5 feet)

Width-45.73cm(1.5feet)

Hight-83.82cm(2.75feet)

Bag Holder-20.32cm(8 inch)

Front Cover-25.4cm(10inch)

Side Cover -27.94cm(11 inch)

Foot Rest-91.44cm(3 feet),25.4cm(10 inch) x 10.16cm(4 inch)(L x W)

Landing -30.48cm(1 feet)25.4cm(10inch) x 5.08cm(2 inch) (L x W)

Part-2A Furniture (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :PE-94

Visit our site Before submit the quotation (Time:10AM to 4PM Working days only)

BENCH (To various laboratories)

Length-135cm

Seat Breadth-34cm

Height -45cm

Total height-82cm

Part-2A Furniture (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :PE-95

Visit our site Before submit the quotation (Time:10AM to 4PM Working days only)

WOODEN TABLE (For placing chemical balance)

Length-120cm

Breadth-45cm

Height -87cm

Part-4 :Lab equipments(Electronics & Communication Engineering) (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EC01,EE27

DSO 100MHz 1 GS/s Colour Digital Storage Oscilloscope With FFT

FEATURES,1GS/s real time sample rate

7 inch TFT colour display 800x480 resolution

Dual Channel,32 automatic measurements

Saving 10 Waveforms and 10 setup parameters, Convenient USB port interface

Convenient USB port interface

SPECIFICATIONS

Bandwidth: DC - 100MHz

Channels: 2 + External

Display : 7 inch LCD Colour (800X480 resolutions)

Input

Mode: Sample, Peak detect, Averaging

Sample rate(real time): 1GS/s

Input coupling: DC,AC,GND,Noise reject, HF, LF, Reject

Input Impedance : 1Mhom \pm 2% in parallel with 20pF \pm 3pF

Probe attenuation factors: 1X, 10X, 100X, 1000X

Max. Input Voltage : 300 RMS,(1Mohm input impedance)

Horizontal system

Record length : Max.40K points

Time Base Range : 4ns/div ~ 40s/div (step as 2~4~8)

Time Base Accuracy : \pm 50 ppm

Vertical system

Vertical Resolution : 8 bits

Vertical sensitivity : 2mV/div ~ 10V/div (Input to BNC)

Position Range: $\geq \pm 10$ div

Single bandwidth : Full bandwidth

LF Respond (AC,-3dB) : ≥ 10 Hz (to BNC)

Rising time (Typical on BNC) : 3.5 nS

DC Gain Accuracy: \pm 4% (2mV / div)~(5mV / div)

Trigger

Trigger Mode : Edge, Pulse, Video,Slope, Overtime, Alternative

Trigger Slope (Edge): Rising, Falling

Trigger Mode (Edge) : Auto, Normal and Single

Trigger Sensitivity (Edge) : 1 div

Trigger Level Range (Edge)

AC Coupling : CH1 and CH2: 1 div

Internal : ± 5 divisions from screen center

EXT : ± 3 V

EXT / 5 : ± 15 V

Trigger Level Accuracy (Edge)

Internal : ± 0.2 divisions

EXT : ± 40 mV \pm 6% setting value

EXT / 5 : ± 200 mV \pm 6% setting value

Trigger mode (Pulse) : < , > , = positive and negative pulse

Pulse width : 20ns-25s

Trigger Sync (Video) : Field, Line

Trigger sensitivity(VIDEO)

Internal : 2 divisions

EXT : 400 mV

Line / Field Frequency: Supports NTSC, PAL

Measurement system

Automatic measurement

Voltage :PK-PK, amplitude, maximum, minimum ,high, low, middle, mean, averaging, RMS, overshoot, Pre-shoot

Time : Frequency, Cycle, rise time, fall time, positive pulse, negative pulse, positive duty ratio, negative duty ratio,delay 1->2_UP, and

delay1->2_DOWN,period,+width,-width, Vtop, Vmid, Vamp, Overshoot, Preshoot, Preshoot, Preiod Mean, Preiod RMS, FOV Shoot,

RPRE Shoot, BWIDTH, FRF, FFR,LPR, LRF, LFR, LFF

Waveform math : Add, Substact, Multiply, Devide

Waveform storage: 10 waveform, 10 setups

FFT Window: Hanning, Hamming, Blackman, Rectangle

FFT Acquisition points : 1024 points

Accessories: Attenuated probe (1X, 10X),USB Cables, manual,(AC code)

Part-4 :Lab equipments(Electronics & Communication Engineering) (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EC02

20MHz DDS Function Generator

SPECIFICATION ,A CHANNEL

Frequency characteristics of waveform

Length: 4 ~ 16000 bits

Amplitude resolution : 12bits

Sample rate : 100MSa/S

Frequency range of waveform

Sine wave: 1μHz~20 MHz

Square wave : 1μHz ~ 5MHz

Saw tooth wave: 1mHz ~ 1MHz

Pulse wave: 1mHz ~ 1MHz

Arbitrary wave: 1mHz ~ 1MHz

Characteristics of sine wave

Total harmonic distortion(1Vpp) : DC ~ 100KHz: -60dBc : 100KHz~1MHz: -50dBc : 1MHz~10MHz : -35dBc

Non-harmonic distortion: DC~1MHz: -50dBc

Characteristics of square wave

Rise: About 20ns

Overshoot : About 12%

Duty : 0% ~ 100%

Characteristics of saw tooth wave

Line : <=0.1% of peak ; (typical value 1KHz, 1VPP, symmetry 100%)

Characteristics of pulse wave

Overshoot: About 12%

Characteristics of amplitude output

Open circuit : 4mVpp ~ 20Vpp

Accuracy : ±1% +2mVrms; (high impedance, RMS, frequency 1KHz)

Offset features: ±1% +2mVrms; (high impedance, RMS, frequency 1KHz)

Offset features

Range : ±10V (high impedance)

Resolution: 20mV,Accuracy : ± (1% +20mV)

AM modulation

Carrier: Sine, Square, Saw tooth , Pulse, Arbitrary

Type: Internal or external

AM depth: 0% ~ 120%,Modulation frequency: 5Hz ~ 50KHz

FM modulation

Carrier : Sine, Square, Saw tooth , Pulse, Arbitrary

Modulation frequency : 5Hz ~ 50KHz,FM deviation: DC ~ 20 MHz

Keying characteristics

ASK: Set carrier amplitude and transition amplitude arbitrary

FSK: Set carrier frequency and transition frequency arbitrary

PSK: Transition phase : 0 ~ 360°

Resolution : 11.25°

Sweep characteristics

Carrier: Sine, Square, Saw tooth , Pulse, Arbitrary

Type: Linear or logarithmic

Range: Set starting and end point arbitrary

Time interval: 1ms ~ 60S

Pulse string

Carrier: Sine, Square, Saw tooth , Pulse, Arbitrary

Cycle number : 1 ~ 50000CYC

Initial phase: 0 ~ 360°

DC offset

Range : ±10V (high impedance) ; resolution : 20mV

Accuracy : ±(1% +20mV)

Characteristics of sync output

Output amplitude : 5V

Frequency : 1μHz ~ 2MHz

B CHANNEL

Frequency range of the waveform

sine wave: 1 μ Hz ~ 20MHz

Square wave : 1 μ Hz ~ 5MHz

AM modulation

Carrier : Sine, Square, Saw tooth , Pulse, Arbitrary

Type : Internal or external

AM depth: 0% ~ 120%

Modulation frequency : 5Hz ~ 50KHz

FM modulation

Carrier: Sine, Square, Saw tooth , Pulse, Arbitrary

Modulation frequency : 5Hz ~ 50KHz

FM deviation : DC ~ 20MHz

Keying characteristics

ASK : Set carrier amplitude and transition amplitude arbitrary

FSK : Set carrier frequency and transition frequency arbitrary

PSK : Transition phase : 0 ~ 360°; resolution : 11.25°

Sweep characteristics

Carrier: Sine, Square, Saw tooth , Pulse, Arbitrary

Type : Linear or logarithmic

Saw tooth wave: 1mHz ~ 1MHz

Pulse wave : 1mHz ~ 1MHz

Arbitrary wave: 1mHz ~ 1MHz

Characteristics of shine wave

Total harmonic distortion (1Vpp) DC~ 100KHz :- 60dBc; 100KHz~1MHz :- 50dBc; 1MHz~10MHz :- 35 dBc

Non-Harmonic distortion : DC~1MHz :- 50dBc

Characteristics of square wave

Rising time: About 20ns

Up rush : About 12%

Duty cycle : 0% ~ 100%

Characteristics of saw tooth wave

Linear: $\leq 0.1\%$ of peak; (typical value 1KHz,1VPP, Symmetry 100%)

Symmetry : 0% ~ 100%

Characteristics

Overshoot: About 12%

Characteristics of amplitude output

Amplitude : 4mVpp~5Vpp

Accuracy: $\pm 1\% + 2\text{mVrms}$; (high impendence, RMS, frequency 1 KHz)

Characteristics of offset

Range : $\pm 2.5\text{V}$

Resolution: 20mV

Accuracy : $\pm (1\%+20\text{mV})$

Power supply

Voltage : AC220V ($1\pm 10\%$)

Frequency: 50Hz ($1\pm 5\%$)

Consumption: $<20\text{VA}$

Environmental conditions

Temperature: 0~40degree, humidity : $< 80\%$

Display mode TFT, LCD 3.5"

Part-4 :Lab equipments(Electronics & Communication Engineering) (Inviting Tender)
Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EC08

ARM Processor compatible for the Llab VIEW

(Lab VIEW for ARM Microcontrollers Teaching Kit)

The lab VIEW Embedded module for ARM microcontrollers works with ARM7,ARM9 and CORTEX-M3 Microcontrollers that are Supported as part of the Keil, RL-ARM Real-Time Library

Part-4 :Lab equipments(Electronics & Communication Engineering) (Inviting Tender)
Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EC17

DATA NETWORKING

ROOM NUMBER 101 AND 104 (New block)

Visit our site Before submit the quotation (Time:10AM to 4PM Working days only)

Sl.No.	Make	Particulars	Qty	Unit
1	D-link	CAT6 4-pair,UTP Cable 600 MHZ 23 AWG, roll of 305m*** (1200m)	4	coil
2	D-link	Single-port British-style faceplate	70	Nos
3	D-link	CAT 6 UTP Jack with Strain relief and bend limiting boot	70	Nos
4	D-link	Back Box	70	Nos
6	D-link	CAT6 SL Series Patch Cords - 2 mtr	70	Nos
7	D-link	RJ45 Boot Caps (CAT 6 Cable)	70	Nos
8	D-link	RJ 45	90	Nos
9	HP	HP 1910-24G Web Managed Switch, 24 x 10/100/1000Mbps ports, 4 SFP port, L2/L3 static routes, ACL, 802.1x N/w login, IPv6 ,Life Time Warranty	4	No
10	Netrack	NETRACK19" Wall Mount Rack with Front lockable glass door, size - 6UX500D, Accessories : Horz.Cable Organiser/1U/Loop - 04 no, Power Dist.Unit/Horz/6SOC/6A/Indian round pin - 01 no Cooling Fan/90cfm - 01 no, Shelf 250D - 01 no	2	No
11		The rates quoted should be of supplying, fixing and networking of the systems lab(room number 101 and room number 104) including the labour charges and all accessories like Cat 6 Utp cablelaying IO termination ,Box & face Plate Fixing, network testing & checking PVC conduits, clamps,wire tag, screws, plastic grips, etc., required for networking .(including the cost of all additional materials required)	1200	Mtr

Part-4 :Lab equipments(Electronics & Communication Engineering) (Inviting Tender)

Ref:UO No:1267/SFII/1/2015/Admin(Dated:09/03/2015)

ITEM NUMBER :EC09

HFSS Ansys 3D High Frequency Electromagnetic Field Simulator (5 user) – Quantity–1 No

- FEM, MoM, PO, FEBI (Hybrid=FEM+MOM) & transient(Time Domain-DGTD) solvers
- Should be able to model & simulate 2D as well as full 3D microwave devices & antennas
- Tangential vector finite elements
- Adaptive Lanczos Padé Sweep (ALPS) for fast frequency sweeps
- Inclusion of skin effect, loss, and frequency dependence
- Automatic adaptive mesh generation and refinement
- Model healing, automatic feature recognition, mesh resolution control, and fault-tolerant meshing for CAD import inside HFSS
- Low, medium, and higher-order basis functions
- Direct and iterative matrix solvers (64-bit capability)
- Auto-assign for terminal-driven ports
- Incident field from several sources including small current loop, dipoles, and arbitrary plane waves
- Pushbutton Solution Data:
 - S-parameters (single-ended, differential, de-embedded, renormalized)
 - Y and Z matrices
- Port mode and impedance calculation by 2-D-eigenmode solver fields
 - E and H fields, current densities, material losses, Q factors, radiation losses
 - Radiated-field calculations (directivity, gain, beam width, side-lobe levels, axial ratio, etc.)
 - SAR calculation
- Accurate broadband frequency sweeps with rigorous treatment of dispersive ports, materials and skin effect
- Optimetrics and Parameterization capability with all the solvers
- Unlimited multi core simulations (Multi-Processing)
- Automatic boundary assignment for radiating bodies
- Direct and iterative matrix solvers (32 and 64-bit)
- Floquet ports for antenna arrays, frequency- selective surfaces (FSS) and other periodic structures
- Eigen mode matrix solver (32 and 64-bit) including periodic boundary conditions for traveling-wave and electromagnetic band-gap structures
- Strong CAD integration capabilities, model healing, automatic feature recognition with mesh resolution control
- Full-Wave SPICE™ Model extraction option for integration with Nexxim®, HSPICE®, Spectre® RF and MATLAB®
- Multi-processing for mesh and post processing operations
- Broadband device characterization
 - Broadband interpolating sweep algorithm
 - Multipole Debye frequency dependent model for causal material generation
 - Multi-processing of port field recovery

Ansyz Designer :RF Circuit Designer for Active RF components

- **Time and Frequency Domain Analysis of Antenna Arrays and RF ICs**
- **Circuit Analysis**
 - DC analysis w/ multiple continuation options

- Linear network analysis
- Multi-tone harmonic balance analysis
- Shooting method option
- Oscillator analysis and link with HFSS software
- Autonomous plus driven sources option
- Time varying noise and phase noise analyses
- Envelope analysis
- Multi-carrier modulation support
- Load pull analysis and model support
- Periodic transfer function analysis
- **Model Support**
 - HSPICE® and Spectre® model support CMOS, BiCMOS, SiGe and GaAs
 - Verilog-A Support
 - MOSFETS (BSIM4, HiSim, BSIMSOI, PSP, MET, etc.)
 - BJTs (HiCUM, VBIC, HBT, Mextram, Modella, etc.)
 - Diodes (SPICE, PIN, Microwave, JUNCAP, etc.)
 - JFETs/MESFETs (Statz, TOM3, Materka, EEHEMT, Parker-Skellern, Angelov, Curtice, etc.)
 - Independent and controlled sources
 - Filters (Bessel, Butterworth, Elliptic, etc.)
 - Passives (Hybrids, antennas, splitters, couplers, etc.)
 - SPICE import with encryption and IP protection
 - Broadband interconnects: S and W elements
 - Distributed transmission-line models and discontinuity models for:
 - Microstrip and stripline
 - Suspended stripline and offset stripline
 - Coplanar and grounded coplanar waveguide
 - Slotline and coaxial cable
 - Multi-coupled transmission lines
- **Design Utilities**
 - Calibration wizard
 - Smith tool matching utility
 - Transmission Line utility
 - SPICE/Spectre macro-cell netlist import wizard
 - Component de-embedding
 - Filter synthesis utility

SIWAVE :RF PCB/IC Analysis tool

- **High Speed circuit Analysis.**
- **EMI/EMC testing and Measurements**
- **High Speed PCB Analysis**
- **IC Package Analysis**
- **Full-wave analysis using 2D Finite Element Method (FEM) for layered structures**
 - Including loss and frequency dependence
 - Fast convergence for interpolating sweeps
 - Fast resonant mode analysis
- **Accurately solve for S-, Y- and Z-parameters including DC**
 - Lumped RLC extraction from S-parameter data
 - Near- and far-field radiation for EMI/EMC using the dynamic link with HFSS
 - Impedance discontinuities in traces due to route layer and reference plane changes, and routing over split planes

- **Electromagnetic interference/compatibility analyses**
 - Near field solutions
 - Far field solutions
 - Resonant cavity analysis
- **Analyze time-domain effects, such as:**
 - Time domain reflectometry (TDR)
 - Time domain through (TDT)
 - Characteristic impedance
Link with HFSS software
 - Propagation delay
 - Transmission line RLCC per unit length values
 - Reflections and ringing
 - Simultaneous switching noise (SSO/SSN)
 - Noise coupling of traces and planes
 - Power and ground bounce
- **Package and PCB co-simulation**
- **Chip Power Module simulations**

Q#D Extractor: Quasi Static Parasitic extractor

- Quasistatic 3D electromagnetic field analysis using Method of Moments (MoM) accelerated by Fast Multipole Method (FMM)
 - Includes proximity and skin effect, dielectric and ohmic loss and frequency dependence
 - Pushbutton 3D extraction of resistance (R), partial inductance (L), capacitance (C) and conductance (G) matrices
 - Infinite ground planes can be modeled
- Quasistatic 2D electromagnetic field analysis using the Finite Element Method (FEM)
 - Per-unit-length RLCC parameters for transmission lines
 - Characteristic impedance (Z0) matrices
 - Propagation speed, delay, attenuation, effective permittivity
 - Differential and common-mode parameters
 - Near- and far-end crosstalk coefficients
 - Surface roughness modeling
- Automatic, adaptive meshing
 - TAU mesher for volume meshing
 - 64-bit meshing
- Creation of equivalent circuit models (SPICE sub-circuits/ ladder type lumped models) 2D
 - Simplorer® sml, Berkeley Spice, , Cadence DML, HSPICE®, HSPICE W Element (tabular frequency dependent), PSpice®, Spectre®, Intel LCF, IBIS ICM 3D
 - Simplorer® sml, Berkeley Spice, Cadence DML, HSPICE, IBIS
- Package Model, Maxwell® Spice, PSpice, Spectre, IBIS ICM Creation of frequency-domain S-parameters
 - AC/DC R and L included in RL(f) model
 - Distributed model
 - Touchstone format supported
 - Display of data/visualization of results
 - Matrices of parasitic
 - Current and voltage visualization for conductors
 - Vector and magnitude field plots
 - Model healing, resolution and fault-tolerant meshing for CAD import
 - GDSII import
 - User-defined primitives (UDP) for customizable geometric elements/library of parts
 - Integrated optimization/parametric solutions –Optometric software
 - Geometry and material parameterization

- Optimization, sensitivity and statistical analysis
- Distributed Analysis for parallel computing (option)
- Dynamic links to RF circuit simulation & planer EM tool for EM-circuit co-simulation
- Coupled with Simpler for power system modeling

Note: 1. Perpetual Licenses for all the above mentioned simulation tools.

2. All tools should be compatible with Windows XP 32Bit ,64 Bit ,Windows 7 ,8 and Linux environments.

3. Onsite hands-on training